

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:sssptaul53cxa

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America  
NEWS 2 "Ask CAS" for self-help around the clock  
NEWS 3 May 12 EXTEND option available in structure searching  
NEWS 4 May 12 Polymer links for the POLYLINK command completed in REGISTRY  
NEWS 5 May 27 New UPM (Update Code Maximum) field for more efficient patent  
SDIs in Caplus  
NEWS 6 May 27 Caplus super roles and document types searchable in REGISTRY  
NEWS 7 Jun 22 STN Patent Forums to be held July 19-22, 2004  
NEWS 8 Jun 28 Additional enzyme-catalyzed reactions added to CASREACT  
NEWS 9 Jun 28 ANTE, AQUALINE, BIOENG, CIVILENG, ENVIROENG, MECHENG,  
and WATER from CSA now available on STN(R)  
NEWS 10 Jul 12 BEILSTEIN enhanced with new display and select options,  
resulting in a closer connection to BABS  
  
NEWS EXPRESS MARCH 31 CURRENT WINDOWS VERSION IS V7.00A, CURRENT  
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 26 APRIL 2004  
NEWS HOURS STN Operating Hours Plus Help Desk Availability  
NEWS INTER General Internet Information  
NEWS LOGIN Welcome Banner and News Items  
NEWS PHONE Direct Dial and Telecommunication Network Access to STN  
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that  
specific topic.

All use of STN is subject to the provisions of the STN Customer  
agreement. Please note that this agreement limits use to scientific  
research. Use for software development or design or implementation  
of commercial gateways or other similar uses is prohibited and may  
result in loss of user privileges and other penalties.

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 12:15:10 ON 22 JUL 2004

=> file caplus uspatful europatful japio medline biosis embase		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	0.63	0.63

FILE 'CAPLUS' ENTERED AT 12:17:03 ON 22 JUL 2004

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 12:17:03 ON 22 JUL 2004

CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'EUROPATFULL' ENTERED AT 12:17:03 ON 22 JUL 2004  
COPYRIGHT (c) 2004 WILA Verlag Muenchen (WILA)

FILE 'JAPIO' ENTERED AT 12:17:03 ON 22 JUL 2004  
COPYRIGHT (C) 2004 Japanese Patent Office (JPO)- JAPIO

FILE 'MEDLINE' ENTERED AT 12:17:03 ON 22 JUL 2004

FILE 'BIOSIS' ENTERED AT 12:17:03 ON 22 JUL 2004  
COPYRIGHT (C) 2004 BIOLOGICAL ABSTRACTS INC.(R)

FILE 'EMBASE' ENTERED AT 12:17:03 ON 22 JUL 2004  
COPYRIGHT (C) 2004 Elsevier Inc. All rights reserved.

=> s (RAR antagonist)  
L1 289 (RAR ANTAGONIST)

=> s l1 and (BMP? or (osteogenic protein) or OPS or cytokine#)  
L2 29 L1 AND (BMP? OR (OSTEOGENIC PROTEIN) OR OPS OR CYTOKINE#)

=> s l2 and (chondrogen?)  
L3 8 L2 AND (CHONDROGEN?)

=> s l3 and (solution or suspension or gel or matirx or cream or gel or film or  
paste or capsule or pill or tablet or encapsul? or Microcapsule# or micropart?)  
4 FILES SEARCHED...  
L4 3 L3 AND (SOLUTION OR SUSPENSION OR GEL OR MATIRX OR CREAM OR  
GEL OR FILM OR PASTE OR CAPSULE OR PILL OR TABLET OR ENCAPSUL?  
OR MICROCAPSULE# OR MICROPART?)

=> s l4 and liposom?  
L5 3 L4 AND LIPOSOM?

=> d l5 1-3 ibib abs

L5 ANSWER 1 OF 3 USPATFULL on STN  
ACCESSION NUMBER: 2003:181419 USPATFULL  
TITLE: Compositions and methods for affecting osteogenesis  
INVENTOR(S): Underhill, T. Michael, Ontario, CANADA  
Sampaio, Arthur V., Ontario, CANADA  
Weston, Andrea D., Ontario, CANADA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003125252	A1	20030703
APPLICATION INFO.:	US 2002-221602	A1	20020912 (10)
	WO 2001-CA317		20010313
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	MYERS BIGEL SIBLEY & SAJOVEC, PO BOX 37428, RALEIGH, NC, 27627		
NUMBER OF CLAIMS:	72		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	6 Drawing Page(s)		
LINE COUNT:	1833		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			
AB	The invention relates to compositions for promoting and inhibiting osteogenesis and to methods for treating bone abnormalities resulting from injury, toxicity or disease and for ex vivo bone tissue engineering.		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 2 OF 3 USPATFULL on STN

ACCESSION NUMBER: 2003:47877 USPATFULL

TITLE: Use of ligands for treatment of diseases responsive to retinoids

INVENTOR(S): Chambon, Pierre, Blaesheim, FRANCE  
Borrelli, Emiliana, Strasbourg, FRANCE  
Ghyselinck, Norbert B., Strasbourg, FRANCE  
Dupe, Valerie, London, UNITED KINGDOM  
Mark, Manuel, Morschwiller, FRANCE  
Metzger, Daniel, Strasbourg, FRANCE

PATENT ASSIGNEE(S): Institut National de la Santa et de la Recherche  
Medicale, Paris, FRANCE (non-U.S. corporation)  
Centre National de la Recherche Scientifique, Paris,  
FRANCE (non-U.S. corporation)  
Universite Louis Pasteur, Strasbourg, FRANCE (non-U.S.  
corporation)  
Bristol-Myers Squibb Company, Princeton, NJ, United  
States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6521814	B1	20030218
APPLICATION INFO.:	US 1998-218446		19981222 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-68471P	19971222 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Reynolds, Deborah J.	
ASSISTANT EXAMINER:	Sorbello, Eleanor	
LEGAL REPRESENTATIVE:	Sterne, Kessler Goldstein & Fox	
NUMBER OF CLAIMS:	73	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	124 Drawing Figure(s); 51 Drawing Page(s)	
LINE COUNT:	5178	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to methods for treatment of neurological disease by administering an agent which interacts with a retinoid receptor associated with the neurological disease. The invention is also related to a method of modulating dopamine receptor synthesis by introducing an agent that interacts with a retinoid receptor associated with the dopamine receptor synthesis. The invention is further related to a transgenic animal, e.g., mouse, and mammalian cell line, which is deficient in the normal synthesis of one or more receptors of RAR $\alpha$ ,  $\beta$ ,  $\gamma$  and RXR, and cell line thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 3 OF 3 EUROPATFULL COPYRIGHT 2004 WILA on STN

GRANTED PATENT - ERTEILTES PATENT - BREVET DELIVRE

ACCESSION NUMBER: 1131067 EUROPATFULL EW 200420 FS PS  
TITLE: COMPOSITION AND USE OF RAR ANTAGONISTS FOR PROMOTING  
**CHONDROGENESIS.**

ZUBEREITUNG UND VERWENDUNG VON RAR ANTAGONISTEN ZUR  
FORDERUNG DER **CHONDROGENESE.**  
COMPOSITION A BASE D'ANTAGONISTES DES RAR ET SON  
UTILISATION POUR FAVORISER LA **CHONDROGENESE.**  
INVENTOR(S): UNDERHILL, Tully Michael, Univ. Western of Ontario, Div.  
of Oral Biology, School of Dentistry, London, Ontario  
N6A 5C1, CA;  
WESTON, Andrea, Dawn, Univ. of Western Ontario, The

Faculty of Med. & Dentistry, Dep.of Phys., London,  
 Ontario N6A 5C1, CA  
 PATENT ASSIGNEE(S): The University of Western Ontario, Office of Industry  
 Liason, Stevenson-Lawson Building, Room 319, London,  
 Ontario N6A 5B8, CA  
 PATENT ASSIGNEE NO: 1820961  
 AGENT: Holliday, Louise Caroline, D Young & Co, 21 New Fetter  
 Lane, London EC4A 1DA, GB  
 AGENT NUMBER: 95451  
 OTHER SOURCE: MEPB2004021 EP 1131067 B1 0035  
 SOURCE: Wila-EPS-2004-H20-T1  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Anmeldung in Englisch; Veroeffentlichung in Englisch  
 DESIGNATED STATES: R AT; R BE; R CH; R CY; R DE; R DK; R ES; R FI; R FR; R  
 GB; R GR; R IE; R IT; R LI; R LU; R MC; R NL; R PT; R  
 SE; R AL; R LT; R LV; R MK; R RO; R SI  
 PATENT INFO.PUB.TYPE: EPB1 EUROPAEISCHE PATENTSCHRIFT (Internationale  
 Anmeldung)

PATENT INFORMATION:

	PATENT NO.	KIND DATE
	-----	-----
	EP 1131067	B1 20040512
'OFFENLEGUNGS' DATE:		20010912
APPLICATION INFO.:	EP 1999-955613	19991119
PRIORITY APPLN. INFO.:	CA 1998-2254429	19981119
RELATED DOC. INFO.:	WO 99-CA1106	991119 INTAKZ
	WO 2000030635	000602 INTPNR
REFERENCE PAT. INFO.:	WO 98-08546 A	WO 99-24415 A
	US 5827500 A	
REF. NON-PATENT-LIT.:	KOYAMA E ET AL: "Retinoid signaling is required for chondrocyte maturation and endochondral bone formation during limb skeletogenesis." DEVELOPMENTAL BIOLOGY, (1999 APR 15) 208 (2) 375-91., XP000879298 PATENT ABSTRACTS OF JAPAN vol. 1998, no. 10, 31 August 1998 (1998-08-31) & JP10114757 A (SHUDO KOICHI), 6 May 1998 (1998-05-06) STANDEVEN A M ET AL: "Retinoid-induced epiphyseal plate closure in guinea pigs." FUNDAMENTAL AND APPLIED TOXICOLOGY, (1996 NOV) 34 (1) 91-8., XP000879170 KOYAMA, E. ET AL: "Retinoids and their nuclear receptors promote the completion of chondrocyte maturation during limb skeletogenesis." MOLECULAR BIOLOGY OF THE CELL, (NOV., 1997) VOL. 8, NO. SUPPL., PP. 71A. MEETING INFO.: 37TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR CELL BIOLOGY WASHINGTON, D.C., USA DECEMBER 13-17, 1997 AMERICAN SOCIETY FOR CELL BIOLOGY., XP000879148 NUKA S (REPRINT) ET AL: "All-trans retinoic acid inhibits dexamethasone-induced ALP activity and mineralization in human osteoblastic cell line SV HFO" CELL STRUCTURE AND FUNCTION, (FEB 1997) VOL. 22, NO. 1, PP. 27-32. PUBLISHER: JAPAN SOC CELL BIOLOGY, SHIMOTACHIURI OGAWA-HIGASHI, KAMIKYOKU KYOTO 602, JAPAN. ISSN: 0386-7196., XP000879088 SAPPORO MED UNIV, SCH MED, DEPT PATHOL, CHUO KU, S1, W17, SAPPORO, HOKKAIDO 060, JAPAN (Reprint);SAPPORO MED UNIV, SCH MED, DEPT ORTHOPAED SURG, CHUO KU, SAPPORO, HOKKAIDO 060, JAPAN VON SCHROEDER H P ET AL: "The effects of natural and synthetic retinoids on the differentiation of RCJ C5.18 chondrogenic cells." TERATOLOGY, (1994 JUL) 50 (1) 54-62., XP000653320 JIANG: "Modulation of limb bud chondrogenesis by retinoic acid and retinoic acid receptors." DEVELOPMENTAL BIOLOGY, vol. 39, no. 4, 1995, XP000884176	

=> d 13 1-8 ibib abs

L3 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:368088 CAPLUS  
DOCUMENT NUMBER: 133:828  
TITLE: Composition and use of RAR antagonists for promoting  
**chondrogenesis**  
INVENTOR(S): Underhill, Tully Michael; Weston, Andrea Dawn  
PATENT ASSIGNEE(S): The University of Western Ontario, Can.  
SOURCE: PCT Int. Appl., 63 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000030635	A1	20000602	WO 1999-CA1106	19991119
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
EP 1131067	A1	20010912	EP 1999-955613	19991119
EP 1131067	B1	20040512		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
JP 2002530331	T2	20020917	JP 2000-583518	19991119
AU 764394	B2	20030814	AU 2000-12552	19991119
AU 2000012552	A5	20000613		
US 2002061514	A1	20020523	US 2001-957456	20010921
PRIORITY APPLN. INFO.:			CA 1998-2254429 A	19981119
			WO 1999-CA1106 W	19991119
			US 2000-234242P P	20000921

AB The invention provides compns. comprising a **RAR antagonist** for promoting **chondrogenesis**, as well as methods employing such compns. for treating cartilage and associated bone abnormalities resulting from injury or disease and for ex vivo tissue engineering.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:147914 CAPLUS  
DOCUMENT NUMBER: 132:261066  
TITLE: Regulation of skeletal progenitor differentiation by the **BMP** and retinoid signaling pathways  
AUTHOR(S): Weston, Andrea D.; Rosen, Vicki; Chandraratna, Roshantha A. S.; Underhill, T. Michael  
CORPORATE SOURCE: Department of Physiology, Faculty of Medicine & Dentistry, The University of Western Ontario, London, ON, N6A 5C1, Can.  
SOURCE: Journal of Cell Biology (2000), 148(4), 679-690  
CODEN: JCLBA3; ISSN: 0021-9525  
PUBLISHER: Rockefeller University Press  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during

limb out-growth. Several signaling mols. have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RAR $\alpha$  in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects. Further anal. of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of **BMPs**, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or **BMP**-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that **BMP** and RAR-signaling pathways appear to operate independently to coordinate skeletal development, and that retinoid signaling can function in a **BMP**-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

REFERENCE COUNT: 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2003:181419 USPATFULL  
 TITLE: Compositions and methods for affecting osteogenesis  
 INVENTOR(S): Underhill, T. Michael, Ontario, CANADA  
 Sampaio, Arthur V., Ontario, CANADA  
 Weston, Andrea D., Ontario, CANADA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003125252	A1	20030703
APPLICATION INFO.:	US 2002-221602	A1	20020912 (10)
	WO 2001-CA317		20010313
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	MYERS BIGEL SIBLEY & SAJOVEC, PO BOX 37428, RALEIGH, NC, 27627		
NUMBER OF CLAIMS:	72		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	6 Drawing Page(s)		
LINE COUNT:	1833		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			
AB	The invention relates to compositions for promoting and inhibiting osteogenesis and to methods for treating bone abnormalities resulting from injury, toxicity or disease and for ex vivo bone tissue engineering.		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 4 OF 8 USPATFULL on STN

ACCESSION NUMBER: 2003:47877 USPATFULL  
 TITLE: Use of ligands for treatment of diseases responsive to retinoids  
 INVENTOR(S): Chambon, Pierre, Blaesheim, FRANCE  
 Borrelli, Emiliana, Strasbourg, FRANCE  
 Ghyselinck, Norbert B., Strasbourg, FRANCE  
 Dupe, Valerie, London, UNITED KINGDOM  
 Mark, Manuel, Morschwiller, FRANCE  
 Metzger, Daniel, Strasbourg, FRANCE

PATENT ASSIGNEE(S): Institut National de la Santa et de la Recherche  
Medicale, Paris, FRANCE (non-U.S. corporation)  
Centre National de la Recherche Scientifique, Paris,  
FRANCE (non-U.S. corporation)  
Universite Louis Pasteur, Strasbourg, FRANCE (non-U.S.  
corporation)  
Bristol-Myers Squibb Company, Princeton, NJ, United  
States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6521814	B1	20030218
APPLICATION INFO.:	US 1998-218446		19981222 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-68471P	19971222 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Reynolds, Deborah J.	
ASSISTANT EXAMINER:	Sorbello, Eleanor	
LEGAL REPRESENTATIVE:	Sterne, Kessler Goldstein & Fox	
NUMBER OF CLAIMS:	73	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	124 Drawing Figure(s); 51 Drawing Page(s)	
LINE COUNT:	5178	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to methods for treatment of neurological disease by administering an agent which interacts with a retinoid receptor associated with the neurological disease. The invention is also related to a method of modulating dopamine receptor synthesis by introducing an agent that interacts with a retinoid receptor associated with the dopamine receptor synthesis. The invention is further related to a transgenic animal, e.g., mouse, and mammalian cell line, which is deficient in the normal synthesis of one or more receptors of RAR $\alpha$ ,  $\beta$ ,  $\gamma$  and RXR, and cell line thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 5 OF 8 EUROPATFULL COPYRIGHT 2004 WILA on STN

GRANTED PATENT - ERTEILTES PATENT - BREVET DELIVRE

ACCESSION NUMBER: 1131067 EUROPATFULL EW 200420 FS PS  
TITLE: COMPOSITION AND USE OF RAR ANTAGONISTS FOR PROMOTING  
**CHONDROGENESIS.**

ZUBEREITUNG UND VERWENDUNG VON RAR ANTAGONISTEN ZUR  
FORDERUNG DER **CHONDROGENESE.**  
COMPOSITION A BASE D'ANTAGONISTES DES RAR ET SON  
UTILISATION POUR FAVORISER LA **CHONDROGENESE.**  
INVENTOR(S): UNDERHILL, Tully Michael, Univ. Western of Ontario, Div.  
of Oral Biology, School of Dentistry, London, Ontario  
N6A 5C1, CA;  
WESTON, Andrea, Dawn, Univ. of Western Ontario, The  
Faculty of Med. & Dentistry, Dep. of Phys., London,  
Ontario N6A 5C1, CA  
PATENT ASSIGNEE(S): The University of Western Ontario, Office of Industry  
Liason, Stevenson-Lawson Building, Room 319, London,  
Ontario N6A 5B8, CA

PATENT ASSIGNEE NO: 1820961  
AGENT: Holliday, Louise Caroline, D Young & Co, 21 New Fetter  
Lane, London EC4A 1DA, GB

AGENT NUMBER: 95451  
OTHER SOURCE: MEPB2004021 EP 1131067 B1 0035

SOURCE: Wila-EPS-2004-H20-T1  
DOCUMENT TYPE: Patent  
LANGUAGE: Anmeldung in Englisch; Veroeffentlichung in Englisch  
DESIGNATED STATES: R AT; R BE; R CH; R CY; R DE; R DK; R ES; R FI; R FR; R GB; R GR; R IE; R IT; R LI; R LU; R MC; R NL; R PT; R SE; R AL; R LT; R LV; R MK; R RO; R SI  
PATENT INFO.PUB.TYPE: EPB1 EUROPAEISCHE PATENTSCHRIFT (Internationale Anmeldung)

PATENT INFORMATION:

	PATENT NO	KIND DATE
	EP 1131067	B1 20040512
'OFFENLEGUNGS' DATE:		20010912
APPLICATION INFO.:	EP 1999-955613	19991119
PRIORITY APPLN. INFO.:	CA 1998-2254429	19981119
RELATED DOC. INFO.:	WO 99-CA1106	991119 INTAKZ
	WO 2000030635	000602 INTPNR
REFERENCE PAT. INFO.:	WO 98-08546 A	WO 99-24415 A
	US 5827500 A	
REF. NON-PATENT-LIT.:	KOYAMA E ET AL: "Retinoid signaling is required for chondrocyte maturation and endochondral bone formation during limb skeletogenesis." DEVELOPMENTAL BIOLOGY, (1999 APR 15) 208 (2) 375-91., XP000879298 PATENT ABSTRACTS OF JAPAN vol. 1998, no. 10, 31 August 1998 (1998-08-31) & JP10114757 A (SHUDO KOICHI), 6 May 1998 (1998-05-06) STANDEVEN A M ET AL: "Retinoid-induced epiphyseal plate closure in guinea pigs." FUNDAMENTAL AND APPLIED TOXICOLOGY, (1996 NOV) 34 (1) 91-8., XP000879170 KOYAMA, E. ET AL: "Retinoids and their nuclear receptors promote the completion of chondrocyte maturation during limb skeletogenesis." MOLECULAR BIOLOGY OF THE CELL, (NOV., 1997) VOL. 8, NO. SUPPL., PP. 71A. MEETING INFO.: 37TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR CELL BIOLOGY WASHINGTON, D.C., USA DECEMBER 13-17, 1997 AMERICAN SOCIETY FOR CELL BIOLOGY., XP000879148 NUKA S (REPRINT) ET AL: "All-trans retinoic acid inhibits dexamethasone-induced ALP activity and mineralization in human osteoblastic cell line SV HFO" CELL STRUCTURE AND FUNCTION, (FEB 1997) VOL. 22, NO. 1, PP. 27-32. PUBLISHER: JAPAN SOC CELL BIOLOGY, SHIMOTACHIURI OGAWA-HIGASHI, KAMIKYOKU KYOTO 602, JAPAN. ISSN: 0386-7196., XP000879088 SAPPORO MED UNIV, SCH MED, DEPT PATHOL, CHUO KU, S1, W17, SAPPORO, HOKKAIDO 060, JAPAN (Reprint);SAPPORO MED UNIV, SCH MED, DEPT ORTHOPAED SURG, CHUO KU, SAPPORO, HOKKAIDO 060, JAPAN VON SCHROEDER H P ET AL: "The effects of natural and synthetic retinoids on the differentiation of RCJ C5.18 chondrogenic cells." TERATOLOGY, (1994 JUL) 50 (1) 54-62., XP000653320 JIANG: "Modulation of limb bud chondrogenesis by retinoic acid and retinoic acid receptors." DEVELOPMENTAL BIOLOGY, vol. 39, no. 4, 1995, XP000884176	

L3 ANSWER 6 OF 8 MEDLINE on STN  
ACCESSION NUMBER: 2000153508 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 10684250  
TITLE: Regulation of skeletal progenitor differentiation by the **BMP** and retinoid signaling pathways.  
AUTHOR: Weston A D; Rosen V; Chandraratna R A; Underhill T M  
CORPORATE SOURCE: Division of Oral Biology, School of Dentistry, The University of Western Ontario, London, Ontario, Canada.  
SOURCE: Journal of cell biology, (2000 Feb 21) 148 (4) 679-90.  
Journal code: 0375356. ISSN: 0021-9525.  
PUB. COUNTRY: United States



DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200003  
ENTRY DATE: Entered STN: 20000327  
Last Updated on STN: 20000327  
Entered Medline: 20000313

AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb outgrowth. Several signaling molecules have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RARalpha in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects (Cash, D.E., C.B. Bock, K. Schughart, E. Linney, and T.M. Underhill. 1997. J. Cell Biol. 136:445-457). Further analysis of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of **BMPs**, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or **BMP**-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that **BMP** and RAR-signaling pathways appear to operate independently to coordinate skeletal development, and that retinoid signaling can function in a **BMP**-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

L3 ANSWER 7 OF 8 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN  
ACCESSION NUMBER: 2000:142678 BIOSIS  
DOCUMENT NUMBER: PREV200000142678  
TITLE: Regulation of skeletal progenitor differentiation by the **BMP** and retinoid signaling pathways.  
AUTHOR(S): Weston, Andrea D.; Rosen, Vicki; Chandraratna, Roshantha A. S.; Underhill, T. Michael [Reprint author]  
CORPORATE SOURCE: School of Dentistry, Faculty of Medicine and Dentistry, University of Western Ontario, London, ON, N6A 5C1, Canada  
SOURCE: Journal of Cell Biology, (Feb. 21, 2000) Vol. 148, No. 4, pp. 679-690. print.  
CODEN: JCLBA3. ISSN: 0021-9525.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 19 Apr 2000  
Last Updated on STN: 4 Jan 2002

AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb outgrowth. Several signaling molecules have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RARalpha in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects (Cash, D.E., C.B. Bock, K. Schughart, E. Linney, and T.M. Underhill. 1997. J. Cell Biol. 136:445-457). Further analysis of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of **BMPs**, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast

differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or **BMP**-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that **BMP** and RAR-signaling pathways appear to operate independently to coordinate skeletal development, and that retinoid signaling can function in a **BMP**-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

L3 ANSWER 8 OF 8 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.  
on STN

ACCESSION NUMBER: 2000316638 EMBASE

TITLE: Regulation of skeletal progenitor differentiation by the **BMP** and retinoid signaling pathways.

AUTHOR: Weston A.D.; Rosen V.; Chandraratna R.A.S.; Underhill T.M.

CORPORATE SOURCE: T.M. Underhill, School of Dentistry, Faculty of Medicine/Dentistry, University of Western Ontario, London, Ont. N6A 5C1, Canada. tunderhi@julian.uwo.ca

SOURCE: Journal of Cell Biology, (21 Feb 2000) 148/4 (679-690).

Refs: 63

ISSN: 0021-9525 CODEN: JCLBA3

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 021 Developmental Biology and Teratology

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb outgrowth. Several signaling molecules have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RAR $\alpha$  in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects (Cash, D.E., C.B. Bock, K. Schughart, E. Linney, and T.M. Underhill. 1997. J. Cell Biol. 136:445-457). Further analysis of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of **BMPs**, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or **BMP**-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that **BMP** and RAR-signaling pathways appear to operate independently to coordinate skeletal development, and that retinoid signaling can function in a **BMP**-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

=>

Connecting via Winsock to STN

LOGINID:sssptaul53cxa

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 17:10:04 ON 11 MAY 2005

```
=> file caplus uspatfull japio medline epfull biosis embase scisearch
COST IN U.S. DOLLARS                               SINCE FILE          TOTAL
                                                    ENTRY          SESSION
FULL ESTIMATED COST                                0.63            0.63
```

FILE 'CAPLUS' ENTERED AT 17:11:52 ON 11 MAY 2005  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 17:11:52 ON 11 MAY 2005  
CA INDEXING COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'JAPIO' ENTERED AT 17:11:52 ON 11 MAY 2005  
COPYRIGHT (C) 2005 Japanese Patent Office (JPO)- JAPIO

FILE 'MEDLINE' ENTERED AT 17:11:52 ON 11 MAY 2005

FILE 'EPFULL' ENTERED AT 17:11:52 ON 11 MAY 2005  
COPYRIGHT (C) 2005 European Patent Office / FIZ Karlsruhe

FILE 'BIOSIS' ENTERED AT 17:11:52 ON 11 MAY 2005  
Copyright (c) 2005 The Thomson Corporation

FILE 'EMBASE' ENTERED AT 17:11:52 ON 11 MAY 2005  
COPYRIGHT (C) 2005 Elsevier Inc. All rights reserved.

FILE 'SCISEARCH' ENTERED AT 17:11:52 ON 11 MAY 2005  
Copyright (c) 2005 The Thomson Corporation

=> s (RAR antagonist#)  
L1 510 (RAR ANTAGONIST#)

=> s l1 and ((bone morphogenic protein?) or BMP? or (osteogenic protein?) or OP? or cytokine?)

3 FILES SEARCHED...

5 FILES SEARCHED...

L2 136 L1 AND ((BONE MORPHOGENIC PROTEIN?) OR BMP? OR (OSTEOGENIC PROTEIN?) OR OP? OR CYTOKINE?)

=> s l2 and chondrogen?  
L3 12 L2 AND CHONDROGEN?

=> d l3 1-12 ibib abs

L3 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:368088 CAPLUS

DOCUMENT NUMBER: 133:828

TITLE: Composition and use of **RAR**  
**antagonists** for promoting  
**chondrogenesis**

INVENTOR(S): Underhill, Tully Michael; Weston, Andrea Dawn

PATENT ASSIGNEE(S): The University of Western Ontario, Can.

SOURCE: PCT Int. Appl., 63 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000030635	A1	20000602	WO 1999-CA1106	19991119
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,  
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,  
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2349555	AA	20000602	CA 1999-2349555	19991119
EP 1131067	A1	20010912	EP 1999-955613	19991119
EP 1131067	B1	20040512		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO

JP 2002530331	T2	20020917	JP 2000-583518	19991119
AU 764394	B2	20030814	AU 2000-12552	19991119
AU 2000012552	A5	20000613		
AT 266396	E	20040515	AT 1999-955613	19991119
ES 2219076	T3	20041116	ES 1999-955613	19991119
CA 2357549	AA	20020321	CA 2001-2357549	20010921
US 2002061514	A1	20020523	US 2001-957456	20010921
HK 1041633	A1	20041008	HK 2002-101649	20020304

PRIORITY APPLN. INFO.: CA 1998-2254429 A 19981119  
WO 1999-CA1106 W 19991119  
US 2000-234242P P 20000921

AB The invention provides compns. comprising a **RAR antagonist** for promoting **chondrogenesis**, as well as methods employing such compns. for treating cartilage and associated bone abnormalities resulting from injury or disease and for ex vivo tissue engineering.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:147914 CAPLUS

DOCUMENT NUMBER: 132:261066

TITLE: Regulation of skeletal progenitor differentiation by the **BMP** and retinoid signaling pathways

AUTHOR(S): Weston, Andrea D.; Rosen, Vicki; Chandraratna, Roshantha A. S.; Underhill, T. Michael

CORPORATE SOURCE: Department of Physiology, Faculty of Medicine & Dentistry, The University of Western Ontario, London, ON, N6A 5C1, Can.

SOURCE: Journal of Cell Biology (2000), 148(4), 679-690

CODEN: JCLBA3; ISSN: 0021-9525

PUBLISHER: Rockefeller University Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb out-growth. Several signaling mols. have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of **RAR $\alpha$**  in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects. Further anal. of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of **BMPs**, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or **BMP**-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that **BMP** and **RAR**-signaling pathways appear to **operate** independently to coordinate skeletal development, and that retinoid signaling can function in a **BMP**-independent manner to induce

cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

REFERENCE COUNT: 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 12 USPATFULL on STN

ACCESSION NUMBER: 2005:63066 USPATFULL

TITLE: Expansion of renewable stem cell populations using modulators of PI 3-kinase

INVENTOR(S): Peled, Tony, Mevaseret Zion, ISRAEL  
Grynspan, Frida, Mevasseret Zion, ISRAEL

NUMBER	KIND	DATE
--------	------	------

PATENT INFORMATION:	US 2005054103	A1	20050310
---------------------	---------------	----	----------

APPLICATION INFO.:	US 2004-795215	A1	20040304 (10)
--------------------	----------------	----	---------------

RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. WO 2003-IL235, filed on 18 Mar 2003, PENDING Continuation-in-part of Ser. No. WO 2003-IL681, filed on 17 Aug 2003, PENDING		
-----------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--

NUMBER	DATE
--------	------

PRIORITY INFORMATION:	US 2003-452545P	20030307 (60)
-----------------------	-----------------	---------------

DOCUMENT TYPE:	Utility
----------------	---------

FILE SEGMENT:	APPLICATION
---------------	-------------

LEGAL REPRESENTATIVE:	MINTZ, LEVIN, COHN, FERRIS, GLOVSKY, AND POPEO, P.C., ONE FINANCIAL CENTER, BOSTON, MA, 02111	
-----------------------	-----------------------------------------------------------------------------------------------	--

NUMBER OF CLAIMS:	147
-------------------	-----

EXEMPLARY CLAIM:	1
------------------	---

NUMBER OF DRAWINGS:	41 Drawing Page(s)
---------------------	--------------------

LINE COUNT:	6805
-------------	------

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Provided are ex vivo and in vivo methods of expanding renewable stem cells using modulators of PI 3-kinase activity, expanded populations of renewable stem cells, and uses thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 4 OF 12 USPATFULL on STN

ACCESSION NUMBER: 2005:11733 USPATFULL

TITLE: Retinoid receptor pan-antagonists for stimulating **chondrogenesis**

INVENTOR(S): Underhill, Michael Tully, Ontario, CANADA  
Weston, Andrea D, Ontario, CANADA

NUMBER	KIND	DATE
--------	------	------

PATENT INFORMATION:	US 2005009868	A1	20050113
---------------------	---------------	----	----------

APPLICATION INFO.:	US 2004-489750	A1	20040827 (10)
--------------------	----------------	----	---------------

	WO 2002-CA1421		20020917
--	----------------	--	----------

NUMBER	DATE
--------	------

PRIORITY INFORMATION:	US 2001-322874P	20010917 (60)
-----------------------	-----------------	---------------

DOCUMENT TYPE:	Utility
----------------	---------

FILE SEGMENT:	APPLICATION
---------------	-------------

LEGAL REPRESENTATIVE:	MYERS BIGEL SIBLEY & SAJOVEC, PO BOX 37428, RALEIGH, NC, 27627	
-----------------------	----------------------------------------------------------------	--

NUMBER OF CLAIMS:	20
-------------------	----

EXEMPLARY CLAIM:	1
------------------	---

NUMBER OF DRAWINGS:	10 Drawing Page(s)
---------------------	--------------------

LINE COUNT:	1777
-------------	------

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to methods and compositions for inducing or enhancing **chondrogenesis** in vivo and/or ex vivo. More specifically, the invention is directed to the use of RAR pan-antagonist compositions for the treatment, repair and engineering of cartilage.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 5 OF 12 USPATFULL on STN

ACCESSION NUMBER: 2005:10492 USPATFULL  
TITLE: Expansion of renewable stem cell populations  
INVENTOR(S): Peled, Tony, Mevaseret Zion, ISRAEL  
Treves, Avi, Mevaseret Zion, ISRAEL  
Rosen, Oren, Jerusalem, ISRAEL

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005008624	A1	20050113
APPLICATION INFO.:	US 2004-774843	A1	20040209 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 2003-IL64, filed on 26 Jan 2003, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	IL 2002-152904	20021117
	US 2002-404137P	20020819 (60)
	US 2002-376183P	20020430 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MINTZ, LEVIN, COHN, FERRIS, GLOVSKY, AND POPEO, P.C., ONE FINANCIAL CENTER, BOSTON, MA, 02111	
NUMBER OF CLAIMS:	64	
EXEMPLARY CLAIM:	CLM-1-400	
NUMBER OF DRAWINGS:	17 Drawing Page(s)	
LINE COUNT:	5497	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Ex vivo and in vivo methods of expansion of renewable stem cells, expanded populations of renewable stem cells and their uses.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 6 OF 12 USPATFULL on STN

ACCESSION NUMBER: 2003:181419 USPATFULL  
TITLE: Compositions and methods for affecting osteogenesis  
INVENTOR(S): Underhill, T. Michael, Ontario, CANADA  
Sampaio, Arthur V., Ontario, CANADA  
Weston, Andrea D., Ontario, CANADA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003125252	A1	20030703
APPLICATION INFO.:	US 2002-221602	A1	20020912 (10)
	WO 2001-CA317		20010313
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	MYERS BIGEL SIBLEY & SAJOVEC, PO BOX 37428, RALEIGH, NC, 27627		
NUMBER OF CLAIMS:	72		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	6 Drawing Page(s)		
LINE COUNT:	1833		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to compositions for promoting and inhibiting osteogenesis and to methods for treating bone abnormalities resulting from injury, toxicity or disease and for ex vivo bone tissue

engineering.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 7 OF 12 USPATFULL on STN

ACCESSION NUMBER: 2003:47877 USPATFULL

TITLE: Use of ligands for treatment of diseases responsive to retinoids

INVENTOR(S): Chambon, Pierre, Blaesheim, FRANCE  
Borrelli, Emiliana, Strasbourg, FRANCE  
Ghyselinck, Norbert B., Strasbourg, FRANCE  
Dupe, Valerie, London, UNITED KINGDOM  
Mark, Manuel, Morschwiller, FRANCE  
Metzger, Daniel, Strasbourg, FRANCE

PATENT ASSIGNEE(S): Institut National de la Santa et de la Recherche  
Medicale, Paris, FRANCE (non-U.S. corporation)  
Centre National de la Recherche Scientifique, Paris,  
FRANCE (non-U.S. corporation)  
Universite Louis Pasteur, Strasbourg, FRANCE (non-U.S.  
corporation)  
Bristol-Myers Squibb Company, Princeton, NJ, United  
States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6521814	B1	20030218
APPLICATION INFO.:	US 1998-218446		19981222 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-68471P	19971222 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Reynolds, Deborah J.	
ASSISTANT EXAMINER:	Sorbello, Eleanor	
LEGAL REPRESENTATIVE:	Sterne, Kessler Goldstein & Fox	
NUMBER OF CLAIMS:	73	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	124 Drawing Figure(s); 51 Drawing Page(s)	
LINE COUNT:	5178	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to methods for treatment of neurological disease by administering an agent which interacts with a retinoid receptor associated with the neurological disease. The invention is also related to a method of modulating dopamine receptor synthesis by introducing an agent that interacts with a retinoid receptor associated with the dopamine receptor synthesis. The invention is further related to a transgenic animal, e.g., mouse, and mammalian cell line, which is deficient in the normal synthesis of one or more receptors of RAR $\alpha$ ,  $\beta$ ,  $\gamma$  and RXR, and cell line thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 8 OF 12 MEDLINE on STN

ACCESSION NUMBER: 2000153508 MEDLINE

DOCUMENT NUMBER: PubMed ID: 10684250

TITLE: Regulation of skeletal progenitor differentiation by the **BMP** and retinoid signaling pathways.

AUTHOR: Weston A D; Rosen V; Chandraratna R A; Underhill T M

CORPORATE SOURCE: Division of Oral Biology, School of Dentistry, The  
University of Western Ontario, London, Ontario, Canada.

SOURCE: Journal of cell biology, (2000 Feb 21) 148 (4) 679-90.

Journal code: 0375356. ISSN: 0021-9525.

PUB. COUNTRY: United States



DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200003  
ENTRY DATE: Entered STN: 20000327  
Last Updated on STN: 20000327  
Entered Medline: 20000313

AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb outgrowth. Several signaling molecules have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RARalpha in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects (Cash, D.E., C.B. Bock, K. Schughart, E. Linney, and T.M. Underhill. 1997. J. Cell Biol. 136:445-457). Further analysis of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of **BMPs**, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or **BMP**-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that **BMP** and RAR-signaling pathways appear to **operate** independently to coordinate skeletal development, and that retinoid signaling can function in a **BMP**-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

L3 ANSWER 9 OF 12 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

ACCESSION NUMBER: 1999:96730 EPFULL  
UPDATE DATE PUBLICAT.: 20050504  
DATA UPDATE DATE: 20050504  
DATA UPDATE WEEK: 200518  
TITLE (ENGLISH): COMPOSITION AND USE OF **RAR**  
**ANTAGONISTS** FOR PROMOTING  
**CHONDROGENESIS**  
TITLE (FRENCH): COMPOSITION A BASE D'ANTAGONISTES DES RAR ET SON  
UTILISATION POUR FAVORISER LA **CHONDROGENESE**  
TITLE (GERMAN): ZUBEREITUNG UND VERWENDUNG VON RAR ANTAGONISTEN ZUR  
FORDERUNG DER **CHONDROGENESE**  
INVENTOR(S): UNDERHILL, Tully Michael, Univ. Western of Ontario,  
Div. of Oral Biology, School of Dentistry, London,  
Ontario N6A 5C1, CA; WESTON, Andrea, Dawn, Univ. of  
Western Ontario, The Faculty of Med. & Dentistry,  
Dep. of Phys., London, Ontario N6A 5C1, CA  
PATENT APPLICANT(S): The University of Western Ontario, (University of  
Western Ontario, The; Western Ontario, The University  
of; Ontario, The University of Western), Office of  
Industry Liason, Stevenson-Lawson Building, Room 319,  
London, Ontario N6A 5B8, CA  
PATENT APPL. NUMBER: 1820961  
AGENT: Holliday, Louise Caroline, D Young & Co 120 Holborn,  
London EC1N 2DY, GB  
AGENT NUMBER: 95451  
LANGUAGE OF FILING: English  
LANGUAGE OF PUBL.: English  
LANGUAGE OF PROCEDURE: English

LANGUAGE OF TITLE: German; English; French  
DOCUMENT TYPE: Patent  
PATENT INFO TYPE: EPB1 Granted patent  
PATENT INFORMATION:  
PATENT INFORMATION:

NUMBER	KIND	DATE
NUMBER	KIND	DATE

EP 1131067	B1	20040512
------------	----	----------

DESIGNATED STATES:

WO 2000030635	20000602
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE	

APPLICATION INFO.:

EP 1999-955613	A	19991119
WO 1999-CA1106	A	19991119
CA 1998-2254429	A	19981119

PRIORITY INFO.:

CITED NON PATENT LIT.:

KOYAMA E ET AL: "Retinoid signaling is required for chondrocyte maturation and endochondral bone formation during limb skeletogenesis." DEVELOPMENTAL BIOLOGY, (1999 APR 15) 208 (2) 375-91. , XP000879298;

PATENT ABSTRACTS OF JAPAN vol. 1998, no. 10, 31 August 1998 (1998-08-31) & JP 10 114757 A (SHUDO KOICHI), 6 May 1998 (1998-05-06);

STANDEVEN A M ET AL: "Retinoid-induced epiphyseal plate closure in guinea pigs." FUNDAMENTAL AND APPLIED TOXICOLOGY, (1996 NOV) 34 (1) 91-8. , XP000879170;

KOYAMA, E. ET AL: "Retinoids and their nuclear receptors promote the completion of chondrocyte maturation during limb skeletogenesis." MOLECULAR BIOLOGY OF THE CELL, (NOV., 1997) VOL. 8, NO. SUPPL., PP. 71A. MEETING INFO.: 37TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR CELL BIOLOGY WASHINGTON, D.C., USA DECEMBER 13-17, 1997 AMERICAN SOCIETY FOR CELL BIOLOGY. , XP000879148;

NUKA S (REPRINT) ET AL: "All-trans retinoic acid inhibits dexamethasone-induced ALP activity and mineralization in human osteoblastic cell line SV HFO" CELL STRUCTURE AND FUNCTION, (FEB 1997) VOL. 22, NO. 1, PP. 27-32. PUBLISHER: JAPAN SOC CELL BIOLOGY, SHIMOTACHIURI OGAWA-HIGASHI, KAMIKYOKU KYOTO 602, JAPAN. ISSN: 0386-7196., XP000879088 SAPPORO MED UNIV, SCH MED, DEPT PATHOL, CHUO KU, S1, W17, SAPPORO, HOKKAIDO 060, JAPAN (Reprint); SAPPORO MED UNIV, SCH MED, DEPT ORTHOPAED SURG, CHUO KU, SAPPORO, HOKKAIDO 060, JAPAN;

VON SCHROEDER H P ET AL: "The effects of natural and synthetic retinoids on the differentiation of RCJ C5.18 chondrogenic cells." TERATOLOGY, (1994 JUL) 50 (1) 54-62. , XP000653320;

JIANG: "Modulation of limb bud chondrogenesis by retinoic acid and retinoic acid receptors." DEVELOPMENTAL BIOLOGY, vol. 39, no. 4, 1995, XP000884176

CITED PATENT LIT.:

WO 9808546	A
WO 9924415	A
US 5827500	A

L3 ANSWER 10 OF 12 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN

ACCESSION NUMBER: 2000:142678 BIOSIS

DOCUMENT NUMBER: PREV200000142678

TITLE: Regulation of skeletal progenitor differentiation by the BMP and retinoid signaling pathways.

AUTHOR(S): Weston, Andrea D.; Rosen, Vicki; Chandraratna, Roshantha A.

S.; Underhill, T. Michael [Reprint author]  
CORPORATE SOURCE: School of Dentistry, Faculty of Medicine and Dentistry,  
University of Western Ontario, London, ON, N6A 5C1, Canada  
SOURCE: Journal of Cell Biology, (Feb. 21, 2000) Vol. 148, No. 4,  
pp. 679-690. print.  
CODEN: JCLBA3. ISSN: 0021-9525.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 19 Apr 2000  
Last Updated on STN: 4 Jan 2002

AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb outgrowth. Several signaling molecules have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RARalpha in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects (Cash, D.E., C.B. Bock, K. Schughart, E. Linney, and T.M. Underhill. 1997. J. Cell Biol. 136:445-457). Further analysis of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of **BMPs**, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or **BMP**-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that **BMP** and RAR-signaling pathways appear to **operate** independently to coordinate skeletal development, and that retinoid signaling can function in a **BMP**-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

L3 ANSWER 11 OF 12 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.  
on STN

ACCESSION NUMBER: 2000316638 EMBASE  
TITLE: Regulation of skeletal progenitor differentiation by the **BMP** and retinoid signaling pathways.  
AUTHOR: Weston A.D.; Rosen V.; Chandraratna R.A.S.; Underhill T.M.  
CORPORATE SOURCE: T.M. Underhill, School of Dentistry, Faculty of  
Medicine/Dentistry, University of Western Ontario, London,  
Ont. N6A 5C1, Canada. tunderhi@julian.uwo.ca  
SOURCE: Journal of Cell Biology, (21 Feb 2000) Vol. 148, No. 4, pp.  
679-690.  
Refs: 63  
ISSN: 0021-9525 CODEN: JCLBA3  
COUNTRY: United States  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 021 Developmental Biology and Teratology  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
ENTRY DATE: Entered STN: 20000921  
Last Updated on STN: 20000921

AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb outgrowth. Several signaling molecules have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RAR $\alpha$  in transgenic animals interferes with **chondrogenesis**

and leads to appendicular skeletal defects (Cash, D.E., C.B. Bock, K. Schughart, E. Linney, and T.M. Underhill. 1997. J. Cell Biol. 136:445-457). Further analysis of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of **BMPs**, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or **BMP**-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that **BMP** and RAR-signaling pathways appear to **operate** independently to coordinate skeletal development, and that retinoid signaling can function in a **BMP**-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

L3 ANSWER 12 OF 12 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN

ACCESSION NUMBER: 2000:171908 SCISEARCH

THE GENUINE ARTICLE: 287NB

TITLE: Regulation of skeletal progenitor differentiation by the **BMP** and retinoid signaling pathways

AUTHOR: Weston A D; Rosen V; Chandraratna R A S; Underhill T M (Reprint)

CORPORATE SOURCE: UNIV WESTERN ONTARIO, SCH DENT, FAC MED & DENT, DIV ORAL BIOL, LONDON, ON N6A 5C1, CANADA (Reprint); UNIV WESTERN ONTARIO, SCH DENT, FAC MED & DENT, DIV ORAL BIOL, LONDON, ON N6A 5C1, CANADA; UNIV WESTERN ONTARIO, DEPT PHYSIOL, FAC MED & DENT, LONDON, ON N6A 5C1, CANADA; GENET INST INC, CAMBRIDGE, MA 02140; ALLERGAN PHARMACEUT INC, RETINOID RES GRP, IRVINE, CA 92623

COUNTRY OF AUTHOR: CANADA; USA

SOURCE: JOURNAL OF CELL BIOLOGY, (21 FEB 2000) Vol. 148, No. 4, pp. 679-690.  
Publisher: ROCKEFELLER UNIV PRESS, 1114 FIRST AVE, 4TH FL, NEW YORK, NY 10021.  
ISSN: 0021-9525.

DOCUMENT TYPE: Article; Journal

FILE SEGMENT: LIFE

LANGUAGE: English

REFERENCE COUNT: 63

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb outgrowth. Several signaling molecules have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RAR alpha in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects (Cash, D.E., C.B. Beck, K. Schughart, E. Linney: and T.M. Underhill. 1997. J. Cell Biol. 136:445-457). Further analysis of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of **BMPs**, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or **BMP**-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations.

In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that **BMP** and RAR-signaling pathways appear to **operate** independently to coordinate skeletal development, and that retinoid signaling can function in a **BMP**-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

=>

---Logging off of STN---

=>

Executing the logoff script...

=> LOG Y

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:sssptaul53cxa

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

\* \* \* \* \* Welcome to STN International \* \* \* \* \*

NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	FEB 28	PATDPAFULL - New display fields provide for legal status data from INPADOC
NEWS	4	FEB 28	BABS - Current-awareness alerts (SDIs) available
NEWS	5	MAR 02	GBFULL: New full-text patent database on STN
NEWS	6	MAR 03	REGISTRY/ZREGISTRY - Sequence annotations enhanced
NEWS	7	MAR 03	MEDLINE file segment of TOXCENTER reloaded
NEWS	8	MAR 22	KOREAPAT now updated monthly; patent information enhanced
NEWS	9	MAR 22	Original IDE display format returns to REGISTRY/ZREGISTRY
NEWS	10	MAR 22	PATDPASPC' - New patent database available
NEWS	11	MAR 22	REGISTRY/ZREGISTRY enhanced with experimental property tags
NEWS	12	APR 04	EPFULL enhanced with additional patent information and new fields
NEWS	13	APR 04	EMBASE - Database reloaded and enhanced
NEWS	14	APR 18	New CAS Information Use Policies available online
NEWS	15	APR 25	Patent searching, including current-awareness alerts (SDIs), based on application date in CA/Caplus and USPATFULL/USPAT2 may be affected by a change in filing date for U.S. applications.
NEWS	16	APR 28	Improved searching of U.S. Patent Classifications for U.S. patent records in CA/Caplus
NEWS	17	MAY 23	GBFULL enhanced with patent drawing images
NEWS	18	MAY 23	REGISTRY has been enhanced with source information from CHEMCATS
NEWS	19	JUN 06	The Analysis Edition of STN Express with Discover! (Version 8.0 for Windows) now available

NEWS 20 JUN 13 RUSSIAPAT: New full-text patent database on STN  
 NEWS 21 JUN 13 FRFULL enhanced with patent drawing images  
 NEWS 22 JUN 27 MARPAT displays enhanced with expanded G-group definitions  
 and text labels  
 NEWS 23 JUL 01 MEDICONF removed from STN  
 NEWS 24 JUL 07 STN Patent Forums to be held in July 2005  
 NEWS 25 JUL 13 SCISEARCH reloaded  
 NEWS 26 JUL 20 Powerful new interactive analysis and visualization software,  
 STN AnaVist, now available  
 NEWS 27 AUG 11 Derwent World Patents Index(R) web-based training during  
 August  
 NEWS 28 AUG 11 STN AnaVist workshops to be held in North America  
 NEWS 29 AUG 30 CA/Caplus -Increased access to 19th century research documents  
 NEWS 30 AUG 30 CASREACT - Enhanced with displayable reaction conditions  
  
 NEWS EXPRESS JUNE 13 CURRENT WINDOWS VERSION IS V8.0, CURRENT  
 MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
 AND CURRENT DISCOVER FILE IS DATED 13 JUNE 2005  
  
 NEWS HOURS STN Operating Hours Plus Help Desk Availability  
 NEWS INTER General Internet Information  
 NEWS LOGIN Welcome Banner and News Items  
 NEWS PHONE Direct Dial and Telecommunication Network Access to STN  
 NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 13:04:38 ON 31 AUG 2005

=> file caplus uspatful japio eptfull medline biosis embase scisearch		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	3.78	3.78

FILE 'CAPLUS' ENTERED AT 13:15:27 ON 31 AUG 2005  
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
 PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
 COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 13:15:27 ON 31 AUG 2005  
 CA INDEXING COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'JAPIO' ENTERED AT 13:15:27 ON 31 AUG 2005  
 COPYRIGHT (C) 2005 Japanese Patent Office (JPO)- JAPIO

FILE 'EPFULL' ENTERED AT 13:15:27 ON 31 AUG 2005  
 COPYRIGHT (C) 2005 European Patent Office / FIZ Karlsruhe

FILE 'MEDLINE' ENTERED AT 13:15:27 ON 31 AUG 2005

FILE 'BIOSIS' ENTERED AT 13:15:27 ON 31 AUG 2005  
 Copyright (c) 2005 The Thomson Corporation

FILE 'EMBASE' ENTERED AT 13:15:27 ON 31 AUG 2005  
 COPYRIGHT (C) 2005 Elsevier Inc. All rights reserved.

FILE 'SCISEARCH' ENTERED AT 13:15:27 ON 31 AUG 2005  
Copyright (c) 2005 The Thomson Corporation

=> (RAR Antagonist#)  
(RAR IS NOT A RECOGNIZED COMMAND  
The previous command name entered was not recognized by the system.  
For a list of commands available to you in the current file, enter  
"HELP COMMANDS" at an arrow prompt (=>).

=> s (RAR Antagonist#)  
L1 527 (RAR ANTAGONIST#)

=> S l1 and chondrogen?  
L2 18 L1 AND CHONDROGEN?

=> d l2 1-18 ibib abs

L2 ANSWER 1 OF 18 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2003:242177 CAPLUS  
DOCUMENT NUMBER: 138:265692  
TITLE: Retinoid receptor pan-antagonists for stimulating  
**chondrogenesis**  
INVENTOR(S): Underhill, Tulley Michael; Weston, Andrea D.  
PATENT ASSIGNEE(S): The University of Western Ontario, Can.  
SOURCE: PCT Int. Appl., 70 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003024473	A2	20030327	WO 2002-CA1421	20020917
WO 2003024473	A3	20030807		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
CA 2459949	AA	20030327	CA 2002-2459949	20020917
EP 1427399	A2	20040616	EP 2002-760008	20020917
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			
US 2005009868	A1	20050113	US 2004-489750	20040827
PRIORITY APPLN. INFO.:			US 2001-322874P	P 20010917
			WO 2002-CA1421	W 20020917

AB The invention provides methods and compns. for inducing or enhancing **chondrogenesis** in vivo and/or ex vivo. More specifically, the invention discloses the use of RAR pan-antagonist compns. for the treatment, repair and engineering of cartilage.

L2 ANSWER 2 OF 18 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2000:368088 CAPLUS  
DOCUMENT NUMBER: 133:828  
TITLE: Composition and use of **RAR antagonists** for promoting **chondrogenesis**

INVENTOR(S): Underhill, Tully Michael; Weston, Andrea Dawn  
 PATENT ASSIGNEE(S): The University of Western Ontario, Can.  
 SOURCE: PCT Int. Appl., 63 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000030635	A1	20000602	WO 1999-CA1106	19991119
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2349555	AA	20000602	CA 1999-2349555	19991119
EP 1131067	A1	20010912	EP 1999-955613	19991119
EP 1131067	B1	20040512		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002530331	T2	20020917	JP 2000-583518	19991119
AU 764394	B2	20030814	AU 2000-12552	19991119
AU 2000012552	A5	20000613		
AT 266396	E	20040515	AT 1999-955613	19991119
ES 2219076	T3	20041116	ES 1999-955613	19991119
CA 2357549	AA	20020321	CA 2001-2357549	20010921
US 2002061514	A1	20020523	US 2001-957456	20010921
HK 1041633	A1	20041008	HK 2002-101649	20020304
PRIORITY APPLN. INFO.:				
			CA 1998-2254429	A 19981119
			WO 1999-CA1106	W 19991119
			US 2000-234242P	P 20000921

AB The invention provides compns. comprising a **RAR antagonist** for promoting **chondrogenesis**, as well as methods employing such compns. for treating cartilage and associated bone abnormalities resulting from injury or disease and for ex vivo tissue engineering.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 3 OF 18 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:147914 CAPLUS

DOCUMENT NUMBER: 132:261066

TITLE: Regulation of skeletal progenitor differentiation by the BMP and retinoid signaling pathways

AUTHOR(S): Weston, Andrea D.; Rosen, Vicki; Chandraratna, Roshantha A. S.; Underhill, T. Michael

CORPORATE SOURCE: Department of Physiology, Faculty of Medicine & Dentistry, The University of Western Ontario, London, ON, N6A 5C1, Can.

SOURCE: Journal of Cell Biology (2000), 148(4), 679-690  
 CODEN: JCLBA3; ISSN: 0021-9525

PUBLISHER: Rockefeller University Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb out-growth. Several signaling mols. have been identified that are important in specifying the pattern of these skeletal primordia. Very



little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RAR $\alpha$  in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects. Further anal. of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of BMPs, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or BMP-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that BMP and RAR-signaling pathways appear to operate independently to coordinate skeletal development, and that retinoid signaling can function in a BMP-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

REFERENCE COUNT: 63 THERE ARE 63 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 4 OF 18 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:4772 CAPLUS

DOCUMENT NUMBER: 132:135439

TITLE: Retinoic acid is a potent regulator of growth plate **chondrogenesis**

AUTHOR(S): De Luca, Francesco; Uyeda, Jennifer A.; Mericq, Veronica; Mancilla, Edna E.; Yanovski, Jack A.; Barnes, Kevin M.; Zile, Maija H.; Baron, Jeffrey  
CORPORATE SOURCE: Developmental Endocrinology Branch, Institute of Child Health and Human Development, National Institutes of Health, Bethesda, MD, 20892, USA

SOURCE: Endocrinology (2000), 141(1), 346-353

CODEN: ENDOAO; ISSN: 0013-7227

PUBLISHER: Endocrine Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Vitamin A deficiency and excess both cause abnormalities in mammalian longitudinal bone growth. Because all-trans retinoic acid (RA) is synthesized from vitamin A, we hypothesized that RA regulates growth plate **chondrogenesis**. Consistent with this hypothesis, a single oral dose of RA reduced the height of the rat proximal tibial growth plate. To determine whether RA acts directly on growth plate, fetal rat metatarsal bones were cultured in the presence of RA. In this system, RA inhibited longitudinal bone growth by three mechanisms: (1) decreased chondrocyte proliferation, (assessed by 3H-thymidine incorporation), particularly in the proliferative zone of the growth plate; (2) decreased matrix synthesis (assessed by 35S04 incorporation into glycosaminoglycans); and (3) decreased cell hypertrophy (determined histol.). The growth-inhibiting effects of RA were completely reversed by a retinoic acid receptor (**RAR**) **antagonist**. In the absence of exogenous RA, this antagonist accelerated bone growth, as did an RA-specific neutralizing antibody, suggesting that endogenous RA neg. regulates growth plate **chondrogenesis**. We conclude that RA, acting through RARs, neg. regulates longitudinal bone growth by inhibiting growth plate chondrocyte proliferation, chondrocyte hypertrophy, and matrix synthesis.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 5 OF 18 USPATFULL on STN

ACCESSION NUMBER: 2005:63066 USPATFULL

TITLE: Expansion of renewable stem cell populations using

modulators of PI 3-kinase  
INVENTOR(S): Peled, Tony, Mevaseret Zion, ISRAEL  
Grynspan, Frida, Mevasseret Zion, ISRAEL

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005054103	A1	20050310
APPLICATION INFO.:	US 2004-795215	A1	20040304 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. WO 2003-IL235, filed on 18 Mar 2003, PENDING Continuation-in-part of Ser. No. WO 2003-IL681, filed on 17 Aug 2003, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2003-452545P	20030307 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MINTZ, LEVIN, COHN, FERRIS, GLOVSKY, AND POPEO, P.C., ONE FINANCIAL CENTER, BOSTON, MA, 02111	
NUMBER OF CLAIMS:	147	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	41 Drawing Page(s)	
LINE COUNT:	6805	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB	Provided are ex vivo and in vivo methods of expanding renewable stem cells using modulators of PI 3-kinase activity, expanded populations of renewable stem cells, and uses thereof.	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 6 OF 18 USPATFULL on STN  
ACCESSION NUMBER: 2005:11733 USPATFULL  
TITLE: Retinoid receptor pan-antagonists for stimulating **chondrogenesis**  
INVENTOR(S): Underhill, Michael Tully, Ontario, CANADA  
Weston, Andrea D, Ontario, CANADA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005009868	A1	20050113
APPLICATION INFO.:	US 2004-489750	A1	20040827 (10)
	WO 2002-CA1421		20020917

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-322874P	20010917 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MYERS BIGEL SIBLEY & SAJOVEC, PO BOX 37428, RALEIGH, NC, 27627	
NUMBER OF CLAIMS:	20	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	10 Drawing Page(s)	
LINE COUNT:	1777	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB	The invention relates to methods and compositions for inducing or enhancing <b>chondrogenesis</b> in vivo and/or ex vivo. More specifically, the invention is directed to the use of RAR pan-antagonist compositions for the treatment, repair and engineering of cartilage.	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 7 OF 18 USPATFULL on STN  
ACCESSION NUMBER: 2005:10492 USPATFULL

TITLE: Expansion of renewable stem cell populations  
INVENTOR(S): Peled, Tony, Mevaseret Zion, ISRAEL  
Treves, Avi, Mevaseret Zion, ISRAEL  
Rosen, Oren, Jerusalem, ISRAEL

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005008624	A1	20050113
APPLICATION INFO.:	US 2004-774843	A1	20040209 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 2003-IL64, filed on 26 Jan 2003, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	IL 2002-152904	20021117
	US 2002-404137P	20020819 (60)
	US 2002-376183P	20020430 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MINTZ, LEVIN, COHN, FERRIS, GLOVSKY, AND POPEO, P.C., ONE FINANCIAL CENTER, BOSTON, MA, 02111	
NUMBER OF CLAIMS:	64	
EXEMPLARY CLAIM:	CLM-1-400	
NUMBER OF DRAWINGS:	17 Drawing Page(s)	
LINE COUNT:	5497	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB	Ex vivo and in vivo methods of expansion of renewable stem cells, expanded populations of renewable stem cells and their uses.	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 8 OF 18 USPATFULL on STN  
ACCESSION NUMBER: 2003:181419 USPATFULL  
TITLE: Compositions and methods for affecting osteogenesis  
INVENTOR(S): Underhill, T. Michael, Ontario, CANADA  
Sampaio, Arthur V., Ontario, CANADA  
Weston, Andrea D., Ontario, CANADA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003125252	A1	20030703
APPLICATION INFO.:	US 2002-221602	A1	20020912 (10)
	WO 2001-CA317		20010313
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	MYERS BIGEL SIBLEY & SAJOVEC, PO BOX 37428, RALEIGH, NC, 27627		
NUMBER OF CLAIMS:	72		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	6 Drawing Page(s)		
LINE COUNT:	1833		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			
AB	The invention relates to compositions for promoting and inhibiting osteogenesis and to methods for treating bone abnormalities resulting from injury, toxicity or disease and for ex vivo bone tissue engineering.		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 9 OF 18 USPATFULL on STN  
ACCESSION NUMBER: 2003:47877 USPATFULL  
TITLE: Use of ligands for treatment of diseases responsive to  
retinoids  
INVENTOR(S): Chambon, Pierre, Blaesheim, FRANCE

Borrelli, Emiliana, Strasbourg, FRANCE  
 Ghyselinck, Norbert B., Strasbourg, FRANCE  
 Dupe, Valerie, London, UNITED KINGDOM  
 Mark, Manuel, Morschwiller, FRANCE  
 Metzger, Daniel, Strasbourg, FRANCE  
 PATENT ASSIGNEE(S): Institut National de la Santa et de la Recherche  
 Medicale, Paris, FRANCE (non-U.S. corporation)  
 Centre National de la Recherche Scientifique, Paris,  
 FRANCE (non-U.S. corporation)  
 Universite Louis Pasteur, Strasbourg, FRANCE (non-U.S.  
 corporation)  
 Bristol-Myers Squibb Company, Princeton, NJ, United  
 States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6521814	B1	20030218
APPLICATION INFO.:	US 1998-218446		19981222 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-68471P	19971222 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Reynolds, Deborah J.	
ASSISTANT EXAMINER:	Sorbello, Eleanor	
LEGAL REPRESENTATIVE:	Sterne, Kessler Goldstein & Fox	
NUMBER OF CLAIMS:	73	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	124 Drawing Figure(s); 51 Drawing Page(s)	
LINE COUNT:	5178	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to methods for treatment of neurological disease  
 by administering an agent which interacts with a retinoid receptor  
 associated with the neurological disease. The invention is also related  
 to a method of modulating dopamine receptor synthesis by introducing an  
 agent that interacts with a retinoid receptor associated with the  
 dopamine receptor synthesis. The invention is further related to a  
 transgenic animal, e.g., mouse, and mammalian cell line, which is  
 deficient in the normal synthesis of one or more receptors of  
 RAR $\alpha$ ,  $\beta$ ,  $\gamma$  and RXR, and cell line thereof.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 10 OF 18 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

ACCESSION NUMBER: 1999:96730 EPFULL  
 UPDATE DATE PUBLICAT.: 20050504  
 DATA UPDATE DATE: 20050504  
 DATA UPDATE WEEK: 200518  
 TITLE (ENGLISH): COMPOSITION AND USE OF **RAR**  
**ANTAGONISTS** FOR PROMOTING  
**CHONDROGENESIS**

TITLE (FRENCH): COMPOSITION A BASE D'ANTAGONISTES DES RAR ET SON  
 UTILISATION POUR FAVORISER LA **CHONDROGENESE**

TITLE (GERMAN): ZUBEREITUNG UND VERWENDUNG VON RAR ANTAGONISTEN ZUR  
 FORDERUNG DER **CHONDROGENESE**

INVENTOR(S): UNDERHILL, Tully Michael, Univ. Western of Ontario,  
 Div. of Oral Biology, School of Dentistry, London,  
 Ontario N6A 5C1, CA; WESTON, Andrea, Dawn, Univ. of  
 Western Ontario, The Faculty of Med. & Dentistry,  
 Dep. of Phys., London, Ontario N6A 5C1, CA

PATENT APPLICANT(S): The University of Western Ontario, (University of  
 Western Ontario, The; Western Ontario, The University

of; Ontario, The University of Western), Office of  
Industry Liason, Stevenson-Lawson Building, Room 319,  
London, Ontario N6A 5B8, CA

PATENT APPL. NUMBER: 1820961  
AGENT: Holliday, Louise Caroline, D Young & Co 120 Holborn,  
London EC1N 2DY, GB  
AGENT NUMBER: 95451  
LANGUAGE OF FILING: English  
LANGUAGE OF PUBL.: English  
LANGUAGE OF PROCEDURE: English  
LANGUAGE OF TITLE: German; English; French  
DOCUMENT TYPE: Patent  
PATENT INFO TYPE: EPB1 Granted patent  
PATENT INFORMATION:  
PATENT INFORMATION:

NUMBER	KIND	DATE
NUMBER	KIND	DATE

EP 1131067	B1	20040512
------------	----	----------

DESIGNATED STATES:

WO 2000030635	20000602
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE	

APPLICATION INFO.:

EP 1999-955613	A	19991119
WO 1999-CA1106	A	19991119
CA 1998-2254429	A	19981119

PRIORITY INFO.:

CITED NON PATENT LIT.:

KOYAMA E ET AL: "Retinoid signaling is required for chondrocyte maturation and endochondral bone formation during limb skeletogenesis." DEVELOPMENTAL BIOLOGY, (1999 APR 15) 208 (2) 375-91. , XP000879298;

PATENT ABSTRACTS OF JAPAN vol. 1998, no. 10, 31 August 1998 (1998-08-31) & JP 10 114757 A (SHUDO KOICHI), 6 May 1998 (1998-05-06);

STANDEVEN A M ET AL: "Retinoid-induced epiphyseal plate closure in guinea pigs." FUNDAMENTAL AND APPLIED TOXICOLOGY, (1996 NOV) 34 (1) 91-8. , XP000879170;

KOYAMA, E. ET AL: "Retinoids and their nuclear receptors promote the completion of chondrocyte maturation during limb skeletogenesis." MOLECULAR BIOLOGY OF THE CELL, (NOV., 1997) VOL. 8, NO. SUPPL., PP. 71A. MEETING INFO.: 37TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR CELL BIOLOGY WASHINGTON, D.C., USA DECEMBER 13-17, 1997 AMERICAN SOCIETY FOR CELL BIOLOGY. , XP000879148;

NUKA S (REPRINT) ET AL: "All-trans retinoic acid inhibits dexamethasone-induced ALP activity and mineralization in human osteoblastic cell line SV HFO" CELL STRUCTURE AND FUNCTION, (FEB 1997) VOL. 22, NO. 1, PP. 27-32. PUBLISHER: JAPAN SOC CELL BIOLOGY, SHIMOTACHIURI OGAWA-HIGASHI, KAMIKYOKU KYOTO 602, JAPAN. ISSN: 0386-7196., XP000879088 SAPPORO MED UNIV, SCH MED, DEPT PATHOL, CHUO KU, S1, W17, SAPPORO, HOKKAIDO 060, JAPAN (Reprint); SAPPORO MED UNIV, SCH MED, DEPT ORTHOPAED SURG, CHUO KU, SAPPORO, HOKKAIDO 060, JAPAN;

VON SCHROEDER H P ET AL: "The effects of natural and synthetic retinoids on the differentiation of RCJ C5.18 chondrogenic cells." TERATOLOGY, (1994 JUL) 50 (1) 54-62. , XP000653320;

JIANG: "Modulation of limb bud chondrogenesis by retinoic acid and retinoic acid receptors." DEVELOPMENTAL BIOLOGY, vol. 39, no. 4, 1995, XP000884176

CITED PATENT LIT.:

WO 9808546	A
------------	---

WO 9924415                   A  
US 5827500                   A

L2    ANSWER 11 OF 18           MEDLINE on STN  
ACCESSION NUMBER:   2000153508       MEDLINE  
DOCUMENT NUMBER:    PubMed ID: 10684250  
TITLE:               Regulation of skeletal progenitor differentiation by the  
                      BMP and retinoid signaling pathways.  
AUTHOR:             Weston A D; Rosen V; Chandraratna R A; Underhill T M  
CORPORATE SOURCE:    Division of Oral Biology, School of Dentistry, The  
                      University of Western Ontario, London, Ontario, Canada.  
SOURCE:             Journal of cell biology, (2000 Feb 21) 148 (4) 679-90.  
                      Journal code: 0375356. ISSN: 0021-9525.  
PUB. COUNTRY:       United States  
DOCUMENT TYPE:       Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE:            English  
FILE SEGMENT:        Priority Journals  
ENTRY MONTH:         200003  
ENTRY DATE:          Entered STN: 20000327  
                      Last Updated on STN: 20000327  
                      Entered Medline: 20000313

AB    The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb outgrowth. Several signaling molecules have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RARalpha in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects (Cash, D.E., C.B. Bock, K. Schughart, E. Linney, and T.M. Underhill. 1997. J. Cell Biol. 136:445-457). Further analysis of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of BMPs, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or BMP-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that BMP and RAR-signaling pathways appear to operate independently to coordinate skeletal development, and that retinoid signaling can function in a BMP-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

L2    ANSWER 12 OF 18           MEDLINE on STN  
ACCESSION NUMBER:   2000080294       MEDLINE  
DOCUMENT NUMBER:    PubMed ID: 10614657  
TITLE:               Retinoic acid is a potent regulator of growth plate  
                      **chondrogenesis**.  
AUTHOR:             De Luca F; Uyeda J A; Mericq V; Mancilla E E; Yanovski J A;  
                      Barnes K M; Zile M H; Baron J  
CORPORATE SOURCE:    Developmental Endocrinology Branch, National Institute of  
                      Child Health and Human Development, National Institutes of  
                      Health, Bethesda, Maryland 20892, USA..  
                      fdeluca@peds.umaryland.edu  
SOURCE:             Endocrinology, (2000 Jan) 141 (1) 346-53.  
                      Journal code: 0375040. ISSN: 0013-7227.  
PUB. COUNTRY:       United States  
DOCUMENT TYPE:       Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE:            English  
FILE SEGMENT:        Abridged Index Medicus Journals; Priority Journals

ENTRY MONTH: 200001  
ENTRY DATE: Entered STN: 20000124  
Last Updated on STN: 20000124  
Entered Medline: 20000113

AB Vitamin A deficiency and excess both cause abnormalities in mammalian longitudinal bone growth. Because all-trans retinoic acid (RA) is synthesized from vitamin A, we hypothesized that RA regulates growth plate **chondrogenesis**. Consistent with this hypothesis, a single oral dose of RA reduced the height of the rat proximal tibial growth plate. To determine whether RA acts directly on growth plate, fetal rat metatarsal bones were cultured in the presence of RA. In this system, RA inhibited longitudinal bone growth by three mechanisms: 1) decreased chondrocyte proliferation, (assessed by 3H-thymidine incorporation), particularly in the proliferative zone of the growth plate; 2) decreased matrix synthesis (assessed by 35SO4 incorporation into glycosaminoglycans); and 3) decreased cell hypertrophy (determined histologically). The growth-inhibiting effects of RA were completely reversed by a retinoic acid receptor (**RAR**) **antagonist**. In the absence of exogenous RA, this antagonist accelerated bone growth, as did an RA-specific neutralizing antibody, suggesting that endogenous RA negatively regulates growth plate **chondrogenesis**. We conclude that RA, acting through RARs, negatively regulates longitudinal bone growth by inhibiting growth plate chondrocyte proliferation, chondrocyte hypertrophy, and matrix synthesis.

L2 ANSWER 13 OF 18 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN

ACCESSION NUMBER: 2000:142678 BIOSIS  
DOCUMENT NUMBER: PREV200000142678  
TITLE: Regulation of skeletal progenitor differentiation by the BMP and retinoid signaling pathways.  
AUTHOR(S): Weston, Andrea D.; Rosen, Vicki; Chandraratna, Roshantha A. S.; Underhill, T. Michael [Reprint author]  
CORPORATE SOURCE: School of Dentistry, Faculty of Medicine and Dentistry, University of Western Ontario, London, ON, N6A 5C1, Canada  
SOURCE: Journal of Cell Biology, (Feb. 21, 2000) Vol. 148, No. 4, pp. 679-690. print.  
CODEN: JCLBA3. ISSN: 0021-9525.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 19 Apr 2000  
Last Updated on STN: 4 Jan 2002

AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb outgrowth. Several signaling molecules have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RARalpha in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects (Cash, D.E., C.B. Bock, K. Schughart, E. Linney, and T.M. Underhill. 1997. J. Cell Biol. 136:445-457). Further analysis of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of BMPs, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or BMP-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that BMP and RAR-signaling pathways appear to operate independently to coordinate skeletal development, and that retinoid signaling can function in a

BMP-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

L2 ANSWER 14 OF 18 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation on STN

ACCESSION NUMBER: 2000:108847 BIOSIS  
DOCUMENT NUMBER: PREV200000108847  
TITLE: Retinoic acid is a potent regulator of growth plate **chondrogenesis**.  
AUTHOR(S): De Luca, Francesco [Reprint author]; Uyeda, Jennifer A.; Mericq, Veronica; Mancilla, Edna E.; Yanovski, Jack A.; Barnes, Kevin M.; Zile, Maija H.; Baron, Jeffrey  
CORPORATE SOURCE: Department of Pediatrics, University of Maryland School of Medicine, 22 South Greene Street, Room N5E13, Baltimore, MD, 21201-1595, USA  
SOURCE: Endocrinology, (Jan., 2000) Vol. 141, No. 1, pp. 346-353. print.  
CODEN: ENDOAO. ISSN: 0013-7227.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 22 Mar 2000  
Last Updated on STN: 3 Jan 2002

AB Vitamin A deficiency and excess both cause abnormalities in mammalian longitudinal bone growth. Because all-trans retinoic acid (RA) is synthesized from vitamin A, we hypothesized that RA regulates growth plate **chondrogenesis**. Consistent with this hypothesis, a single oral dose of RA reduced the height of the rat proximal tibial growth plate. To determine whether RA acts directly on growth plate, fetal rat metatarsal bones were cultured in the presence of RA. In this system, RA inhibited longitudinal bone growth by three mechanisms: 1) decreased chondrocyte proliferation, (assessed by 3H-thymidine incorporation), particularly in the proliferative zone of the growth plate; 2) decreased matrix synthesis (assessed by 35SO4 incorporation into glycosaminoglycans); and 3) decreased cell hypertrophy (determined histologically). The growth-inhibiting effects of RA were completely reversed by a retinoic acid receptor (**RAR**) **antagonist**. In the absence of exogenous RA, this antagonist accelerated bone growth, as did an RA-specific neutralizing antibody, suggesting that endogenous RA negatively regulates growth plate **chondrogenesis**. We conclude that RA, acting through RARs, negatively regulates longitudinal bone growth by inhibiting growth plate chondrocyte proliferation, chondrocyte hypertrophy, and matrix synthesis.

L2 ANSWER 15 OF 18 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

ACCESSION NUMBER: 2001126677 EMBASE  
TITLE: Retinoic acid is a potent regulator of growth plate **chondrogenesis**.  
AUTHOR: De Luca F.; Uyeda J.A.; Mericq V.; Mancilla E.E.; Yanovski J.A.; Barnes K.M.; Zile M.H.; Baron J.  
CORPORATE SOURCE: F. De Luca, Department of Pediatrics, Univ. of Maryland School of Medicine, 22 South Greene Street, Baltimore, MD 21201-1595, United States. fdeluca@peds.umaryland.edu  
SOURCE: Endocrinology, (2000) Vol. 141, No. 1, pp. 346-353.  
Refs: 42  
ISSN: 0013-7227 CODEN: ENDOAO  
COUNTRY: United States  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 003 Endocrinology  
021 Developmental Biology and Teratology  
037 Drug Literature Index  
LANGUAGE: English  
SUMMARY LANGUAGE: English



ENTRY DATE: Entered STN: 20010419  
Last Updated on STN: 20010419

AB Vitamin A deficiency and excess both cause abnormalities in mammalian longitudinal bone growth. Because all-trans retinoic acid (RA) is synthesized from vitamin A, we hypothesized that RA regulates growth plate **chondrogenesis**. Consistent with this hypothesis, a single oral dose of RA reduced the height of the rat proximal tibial growth plate. To determine whether RA acts directly on growth plate, fetal rat metatarsal bones were cultured in the presence of RA. In this system, RA inhibited longitudinal bone growth by three mechanisms: 1) decreased chondrocyte proliferation, (assessed by (3)H-thymidine incorporation), particularly in the proliferative zone of the growth plate; 2) decreased matrix synthesis (assessed by (35)SO(4) incorporation into glycosaminoglycans); and 3) decreased cell hypertrophy (determined histologically). The growth-inhibiting effects of RA were completely reversed by a retinoic acid receptor (**RAR**) **antagonist**. In the absence of exogenous RA, this antagonist accelerated bone growth, as did an RA-specific neutralizing antibody, suggesting that endogenous RA negatively regulates growth plate **chondrogenesis**. We conclude that RA, acting through RARs, negatively regulates longitudinal bone growth by inhibiting growth plate chondrocyte proliferation, chondrocyte hypertrophy, and matrix synthesis.

L2 ANSWER 16 OF 18 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.  
on STN

ACCESSION NUMBER: 2000316638 EMBASE  
TITLE: Regulation of skeletal progenitor differentiation by the BMP and retinoid signaling pathways.  
AUTHOR: Weston A.D.; Rosen V.; Chandraratna R.A.S.; Underhill T.M.  
CORPORATE SOURCE: T.M. Underhill, School of Dentistry, Faculty of Medicine/Dentistry, University of Western Ontario, London, Ont. N6A 5C1, Canada. tunderhi@julian.uwo.ca  
SOURCE: Journal of Cell Biology, (21 Feb 2000) Vol. 148, No. 4, pp. 679-690.  
Refs: 63  
ISSN: 0021-9525 CODEN: JCLBA3  
COUNTRY: United States  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 021 Developmental Biology and Teratology  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
ENTRY DATE: Entered STN: 20000921  
Last Updated on STN: 20000921

AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb outgrowth. Several signaling molecules have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RAR $\alpha$  in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects (Cash, D.E., C.B. Bock, K. Schughart, E. Linney, and T.M. Underhill. 1997. J. Cell Biol. 136:445-457). Further analysis of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of BMPs, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or BMP-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that BMP and RAR-signaling pathways appear to operate independently to coordinate

skeletal development, and that retinoid signaling can function in a BMP-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

L2 ANSWER 17 OF 18 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN

ACCESSION NUMBER: 2000:170484 SCISEARCH  
THE GENUINE ARTICLE: 287NB  
TITLE: Regulation of skeletal progenitor differentiation by the BMP and retinoid signaling pathways  
AUTHOR: Weston A D; Rosen V; Chandraratna R A S; Underhill T M (Reprint)  
CORPORATE SOURCE: Univ Western Ontario, Sch Dent, Fac Med & Dent, Div Oral Biol, London, ON N6A 5C1, Canada (Reprint); Univ Western Ontario, Dept Physiol, Fac Med & Dent, London, ON N6A 5C1, Canada; Genet Inst Inc, Cambridge, MA 02140 USA; Allergan Pharmaceut Inc, Retinoid Res Grp, Irvine, CA 92623 USA  
COUNTRY OF AUTHOR: Canada; USA  
SOURCE: JOURNAL OF CELL BIOLOGY, (21 FEB 2000) Vol. 148, No. 4, pp. 679-690.  
ISSN: 0021-9525.  
PUBLISHER: ROCKEFELLER UNIV PRESS, 1114 FIRST AVE, 4TH FL, NEW YORK, NY 10021 USA.  
DOCUMENT TYPE: Article; Journal  
LANGUAGE: English  
REFERENCE COUNT: 63  
ENTRY DATE: Entered STN: 2000  
Last Updated on STN: 2000

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB The generation of the paraxial skeleton requires that commitment and differentiation of skeletal progenitors is precisely coordinated during limb outgrowth. Several signaling molecules have been identified that are important in specifying the pattern of these skeletal primordia. Very little is known, however, about the mechanisms regulating the differentiation of limb mesenchyme into chondrocytes. Overexpression of RAR alpha in transgenic animals interferes with **chondrogenesis** and leads to appendicular skeletal defects (Cash, D.E., C.B, Beck, K. Schughart, E, Linney: and T.M. Underhill. 1997. J. Cell Biol. 136:445-457). Further analysis of these animals shows that expression of the transgene in chondroprogenitors maintains a prechondrogenic phenotype and prevents chondroblast differentiation even in the presence of BMPs, which are known stimulators of cartilage formation. Moreover, an **RAR antagonist** accelerates chondroblast differentiation as demonstrated by the emergence of collagen type II-expressing cells much earlier than in control or BMP-treated cultures. Addition of Noggin to limb mesenchyme cultures inhibits cartilage formation and the appearance of precartilaginous condensations. In contrast, abrogation of retinoid signaling is sufficient to induce the expression of the chondroblastic phenotype in the presence of Noggin. These findings show that BMP and RAR-signaling pathways appear to operate independently to coordinate skeletal development, and that retinoid signaling can function in a BMP-independent manner to induce cartilage formation. Thus, retinoid signaling appears to play a novel and unexpected role in skeletogenesis by regulating the emergence of chondroblasts from skeletal progenitors.

L2 ANSWER 18 OF 18 SCISEARCH COPYRIGHT (c) 2005 The Thomson Corporation on STN

ACCESSION NUMBER: 2000:3683 SCISEARCH  
THE GENUINE ARTICLE: 267AJ  
TITLE: Retinoic acid is a potent regulator of growth plate **chondrogenesis**  
AUTHOR: De Luca F (Reprint); Uyeda J A; Mericq V; Mancilla E E; Yanovski J A; Barnes K M; Zile M H; Baron J

CORPORATE SOURCE: Univ Maryland, Sch Med, Dept Pediat, 22 S Greene St, Room N5E13, Baltimore, MD 21201 USA (Reprint); NICHD, Dev Endocrinol Branch, NIH, Bethesda, MD 20892 USA; Michigan State Univ, Dept Food Sci & Human Nutr, E Lansing, MI 48824 USA

COUNTRY OF AUTHOR: USA

SOURCE: ENDOCRINOLOGY, (JAN 2000) Vol. 141, No. 1, pp. 346-353.  
ISSN: 0013-7227.

PUBLISHER: ENDOCRINE SOC, 4350 EAST WEST HIGHWAY SUITE 500, BETHESDA, MD 20814-4110 USA.

DOCUMENT TYPE: Article; Journal

LANGUAGE: English

REFERENCE COUNT: 42

ENTRY DATE: Entered STN: 2000  
Last Updated on STN: 2000

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB Vitamin A deficiency and excess both cause abnormalities in mammalian longitudinal bone growth. Because all-trans retinoic acid (RA) is synthesized from vitamin A, we hypothesized that RA regulates growth plate **chondrogenesis**. Consistent with this hypothesis, a single oral dose of RA reduced the height of the rat proximal tibial growth plate. To determine whether RA acts directly on growth plate, fetal rat metatarsal bones were cultured in the presence of RA. In this system, RA inhibited longitudinal bone growth by three mechanisms: 1) decreased chondrocyte proliferation, (assessed by H-3-thymidine incorporation), particularly in the proliferative zone of the growth plate; 2) decreased matrix synthesis (assessed by (SO4)-S-35 incorporation into glycosaminoglycans); and 3) decreased cell hypertrophy (determined histologically). The growth-inhibiting effects of RA were completely reversed by a retinoic acid receptor (**RAR**) **antagonist**. In the absence of exogenous RA, this antagonist accelerated bone growth, as did an RA-specific neutralizing antibody, suggesting that endogenous RA negatively regulates growth plate **chondrogenesis**. We conclude that RA, acting through RARs, negatively regulates longitudinal bone growth by inhibiting growth plate chondrocyte proliferation, chondrocyte hypertrophy, and matrix synthesis.

=> d his

(FILE 'HOME' ENTERED AT 13:04:38 ON 31 AUG 2005)

FILE 'CAPLUS, USPATFULL, JAPIO, EPFULL, MEDLINE, BIOSIS, EMBASE, SCISEARCH' ENTERED AT 13:15:27 ON 31 AUG 2005

L1 527 S (RAR ANTAGONIST#)  
L2 18 S L1 AND CHONDROGEN?

=> s l2 and (AGN 194301)

L3 4 L2 AND (AGN 194301)

=> d l3 1-4 ibib abs

L3 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:368088 CAPLUS

DOCUMENT NUMBER: 133:828

TITLE: Composition and use of **RAR**  
**antagonists** for promoting  
**chondrogenesis**

INVENTOR(S): Underhill, Tully Michael; Weston, Andrea Dawn

PATENT ASSIGNEE(S): The University of Western Ontario, Can.

SOURCE: PCT Int. Appl., 63 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000030635	A1	20000602	WO 1999-CA1106	19991119
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2349555	AA	20000602	CA 1999-2349555	19991119
EP 1131067	A1	20010912	EP 1999-955613	19991119
EP 1131067	B1	20040512		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002530331	T2	20020917	JP 2000-583518	19991119
AU 764394	B2	20030814	AU 2000-12552	19991119
AU 2000012552	A5	20000613		
AT 266396	E	20040515	AT 1999-955613	19991119
ES 2219076	T3	20041116	ES 1999-955613	19991119
CA 2357549	AA	20020321	CA 2001-2357549	20010921
US 2002061514	A1	20020523	US 2001-957456	20010921
HK 1041633	A1	20041008	HK 2002-101649	20020304
PRIORITY APPLN. INFO.:			CA 1998-2254429	A 19981119
			WO 1999-CA1106	W 19991119
			US 2000-234242P	P 20000921

AB The invention provides compns. comprising a **RAR antagonist** for promoting **chondrogenesis**, as well as methods employing such compns. for treating cartilage and associated bone abnormalities resulting from injury or disease and for ex vivo tissue engineering.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 4 USPATFULL on STN

ACCESSION NUMBER: 2005:11733 USPATFULL

TITLE: Retinoid receptor pan-antagonists for stimulating **chondrogenesis**

INVENTOR(S): Underhill, Michael Tully, Ontario, CANADA  
Weston, Andrea D, Ontario, CANADA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005009868	A1	20050113
APPLICATION INFO.:	US 2004-489750	A1	20040827 (10)
	WO 2002-CA1421		20020917

	NUMBER	DATE
PRIORITY INFORMATION:	US 2001-322874P	20010917 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MYERS BIGEL SIBLEY & SAJOVEC, PO BOX 37428, RALEIGH, NC, 27627	
NUMBER OF CLAIMS:	20	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	10 Drawing Page(s)	
LINE COUNT:	1777	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

AB The invention relates to methods and compositions for inducing or enhancing **chondrogenesis** in vivo and/or ex vivo. More specifically, the invention is directed to the use of RAR pan-antagonist compositions for the treatment, repair and engineering of cartilage.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 3 OF 4 USPATFULL on STN

ACCESSION NUMBER: 2003:181419 USPATFULL  
TITLE: Compositions and methods for affecting osteogenesis  
INVENTOR(S): Underhill, T. Michael, Ontario, CANADA  
Sampaio, Arthur V., Ontario, CANADA  
Weston, Andrea D., Ontario, CANADA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003125252	A1	20030703
APPLICATION INFO.:	US 2002-221602	A1	20020912 (10)
	WO 2001-CA317		20010313
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	MYERS BIGEL SIBLEY & SAJOVEC, PO BOX 37428, RALEIGH, NC, 27627		
NUMBER OF CLAIMS:	72		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	6 Drawing Page(s)		
LINE COUNT:	1833		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to compositions for promoting and inhibiting osteogenesis and to methods for treating bone abnormalities resulting from injury, toxicity or disease and for ex vivo bone tissue engineering.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 4 OF 4 EPFULL COPYRIGHT 2005 EPO/FIZ KA on STN

ACCESSION NUMBER: 1999:96730 EPFULL  
UPDATE DATE PUBLICAT.: 20050504  
DATA UPDATE DATE: 20050504  
DATA UPDATE WEEK: 200518  
TITLE (ENGLISH): COMPOSITION AND USE OF **RAR**  
**ANTAGONISTS** FOR PROMOTING  
**CHONDROGENESIS**  
TITLE (FRENCH): COMPOSITION A BASE D'ANTAGONISTES DES RAR ET SON  
UTILISATION POUR FAVORISER LA **CHONDROGENESE**  
TITLE (GERMAN): ZUBEREITUNG UND VERWENDUNG VON RAR ANTAGONISTEN ZUR  
FORDERUNG DER **CHONDROGENESE**  
INVENTOR(S): UNDERHILL, Tully Michael, Univ. Western of Ontario,  
Div. of Oral Biology, School of Dentistry, London,  
Ontario N6A 5C1, CA; WESTON, Andrea, Dawn, Univ. of  
Western Ontario, The Faculty of Med. & Dentistry,  
Dep. of Phys., London, Ontario N6A 5C1, CA  
PATENT APPLICANT(S): The University of Western Ontario, (University of  
Western Ontario, The; Western Ontario, The University  
of; Ontario, The University of Western), Office of  
Industry Liason, Stevenson-Lawson Building, Room 319,  
London, Ontario N6A 5B8, CA  
PATENT APPL. NUMBER: 1820961  
AGENT: Holliday, Louise Caroline, D Young & Co 120 Holborn,  
London EC1N 2DY, GB  
AGENT NUMBER: 95451  
LANGUAGE OF FILING: English  
LANGUAGE OF PUBL.: English

LANGUAGE OF PROCEDURE: English  
 LANGUAGE OF TITLE: German; English; French  
 DOCUMENT TYPE: Patent  
 PATENT INFO TYPE: EPB1 Granted patent  
 PATENT INFORMATION:  
 PATENT INFORMATION:

NUMBER	KIND	DATE
NUMBER	KIND	DATE

EP 1131067	B1	20040512
------------	----	----------

WO 2000030635		20000602
---------------	--	----------

DESIGNATED STATES: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

EP 1999-955613	A	19991119
----------------	---	----------

WO 1999-CA1106	A	19991119
----------------	---	----------

PRIORITY INFO.: CA 1998-2254429	A	19981119
---------------------------------	---	----------

CITED NON PATENT LIT.: KOYAMA E ET AL: "Retinoid signaling is required for chondrocyte maturation and endochondral bone formation during limb skeletogenesis." DEVELOPMENTAL BIOLOGY, (1999 APR 15) 208 (2) 375-91. , XP000879298;

PATENT ABSTRACTS OF JAPAN vol. 1998, no. 10, 31 August 1998 (1998-08-31) & JP 10 114757 A (SHUDO KOICHI), 6 May 1998 (1998-05-06);

STANDEVEN A M ET AL: "Retinoid-induced epiphyseal plate closure in guinea pigs." FUNDAMENTAL AND APPLIED TOXICOLOGY, (1996 NOV) 34 (1) 91-8. , XP000879170;

KOYAMA, E. ET AL: "Retinoids and their nuclear receptors promote the completion of chondrocyte maturation during limb skeletogenesis." MOLECULAR BIOLOGY OF THE CELL, (NOV., 1997) VOL. 8, NO. SUPPL., PP. 71A. MEETING INFO.: 37TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR CELL BIOLOGY WASHINGTON, D.C., USA DECEMBER 13-17, 1997 AMERICAN SOCIETY FOR CELL BIOLOGY. , XP000879148;

NUKA S (REPRINT) ET AL: "All-trans retinoic acid inhibits dexamethasone-induced ALP activity and mineralization in human osteoblastic cell line SV HFO" CELL STRUCTURE AND FUNCTION, (FEB 1997) VOL. 22, NO. 1, PP. 27-32. PUBLISHER: JAPAN SOC CELL BIOLOGY, SHIMOTACHIURI OGAWA-HIGASHI, KAMIKYOKU KYOTO 602, JAPAN. ISSN: 0386-7196., XP000879088 SAPPORO MED UNIV, SCH MED, DEPT PATHOL, CHUO KU, S1, W17, SAPPORO, HOKKAIDO 060, JAPAN (Reprint);SAPPORO MED UNIV, SCH MED, DEPT ORTHOPAED SURG, CHUO KU, SAPPORO, HOKKAIDO 060, JAPAN;

VON SCHROEDER H P ET AL: "The effects of natural and synthetic retinoids on the differentiation of RCJ C5.18 chondrogenic cells." TERATOLOGY, (1994 JUL) 50 (1) 54-62. , XP000653320;

JIANG: "Modulation of limb bud chondrogenesis by retinoic acid and retinoic acid receptors." DEVELOPMENTAL BIOLOGY, vol. 39, no. 4, 1995, XP000884176

CITED PATENT LIT.:	WO 9808546	A
	WO 9924415	A
	US 5827500	A